Corps of Engineers Response to Katrina and Rita

Presented by:

US Army Corps of Engineers, Buffalo District

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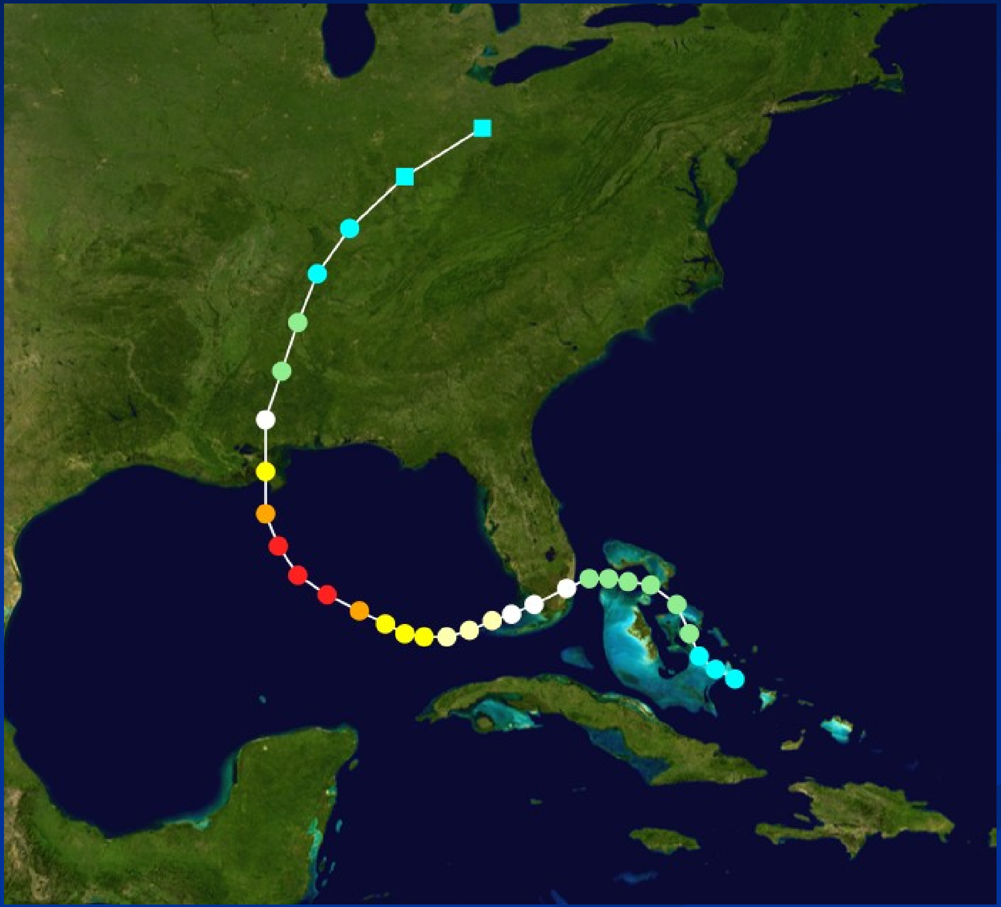
Shanon Chader- Civil/Coastal Engineer
Dustin Tellinghuisen – Civil/Structural Engineer

Corps Role in Disaster Response

Hurricane Katrina

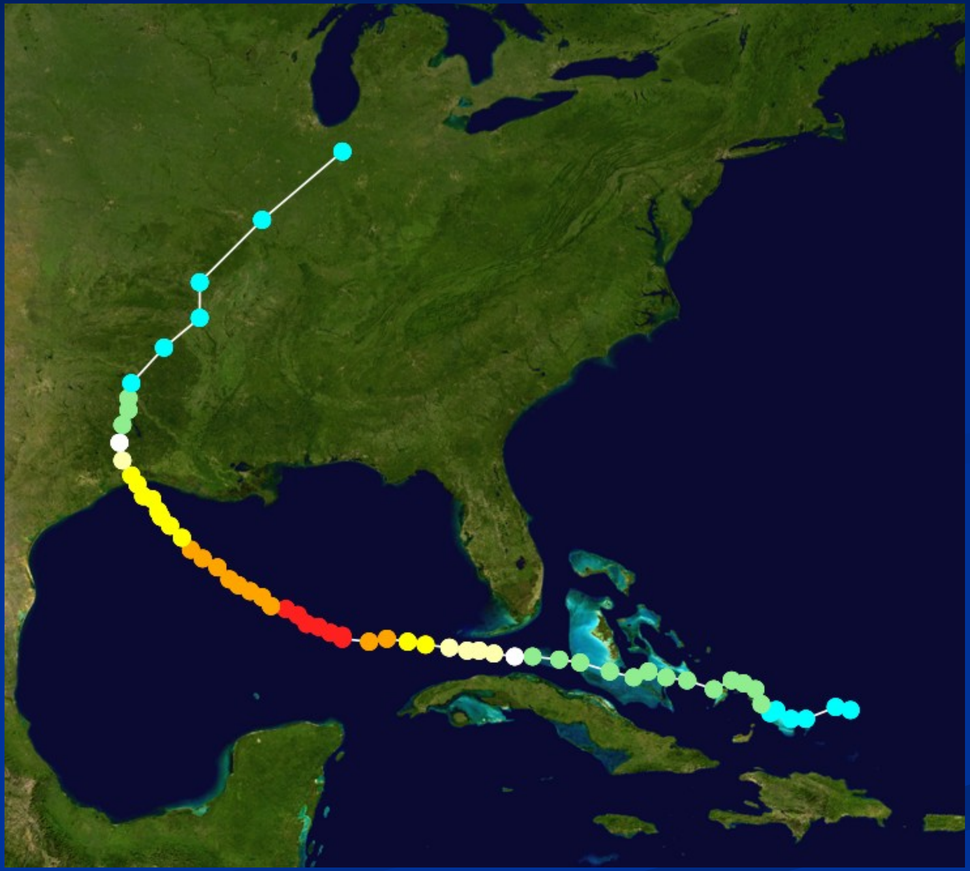
- Made landfall on August 29th, 2005 as a Category 3 (was Category 5) storm with winds up to 125 mph and a storm surge of up to 22 ft
- Caused an estimated $75 billion in damages (costliest hurricane in U.S. history)
- Killed 1,418 people (deadliest hurricane since 1928)



Corps Role in Disaster Response

Hurricane Rita

- Made landfall on September 24, 2005 as a Category 3 (was Category 5) with winds up to 125 mph and a 7 ft storm surge in Texas (15-20 ft in Louisiana)
- Caused an estimated $9 billion in damages
- Killed 6 people directly and 113 indirectly
- Re-flooded parts of Louisiana hit by Katrina



Corps Role in Disaster Response

- Support to FEMA as an Emergency Support Function (ESF)
  - Planning and Response Teams (PRT)
  - Communications via the Deployable Tactical Operations System (DTOS)
  - Geographic Information System (GIS)
  - Hired Labor
  - Logistics
  - Technical Assistance

US Army Corps of Engineers
EMERGENCY OPERATIONS

Role of Team Leader Cadre

- Joint Field Office:
  - Broker the Missions with FEMA
  - Coordinate Missions with State Governments
  - Assign Mission Taskings to supporting Corps Divisions
- Home Office:
  - Coordinate Deployment of Volunteers
  - Supervise the Buffalo District's PRT, Structural Safety Assessment

Planning and Response Teams (PRT)

- Blue Roof
- Debris
- Ice
- Structural Safety Assessment
- Temp. Housing/Public Build
- Temp. Power (249th)
- Water

Louisiana Recovery Field Office
The Face of the Corps

EMERGENCY FIELD OFFICE WEST
Lake Charles, Louisiana
HURRICANE RITA
RECOVERY TEAM
2005

Buffalo District PRT

- Structural Safety Assessments (SSA)
  - Deployed to:
    - City of New Orlea
    - Plaquemines Pari
    - Cameron Parish
    - Vermilion Parish
    - Calcasieu Parish

SSA-PRT

- Role is Different for each Parish…be flexible

- New Orleans – Managed Contractor Inspections
  - Applied Technology Council, Field Manual: Safety Evaluation of Buildings After Windstorms and Floods (ATC 45)
- Other Parishes – USACE performed inspections
  - Used a modified procedure similar to ATC 45 but focused on Repairable/Demolition Evaluation

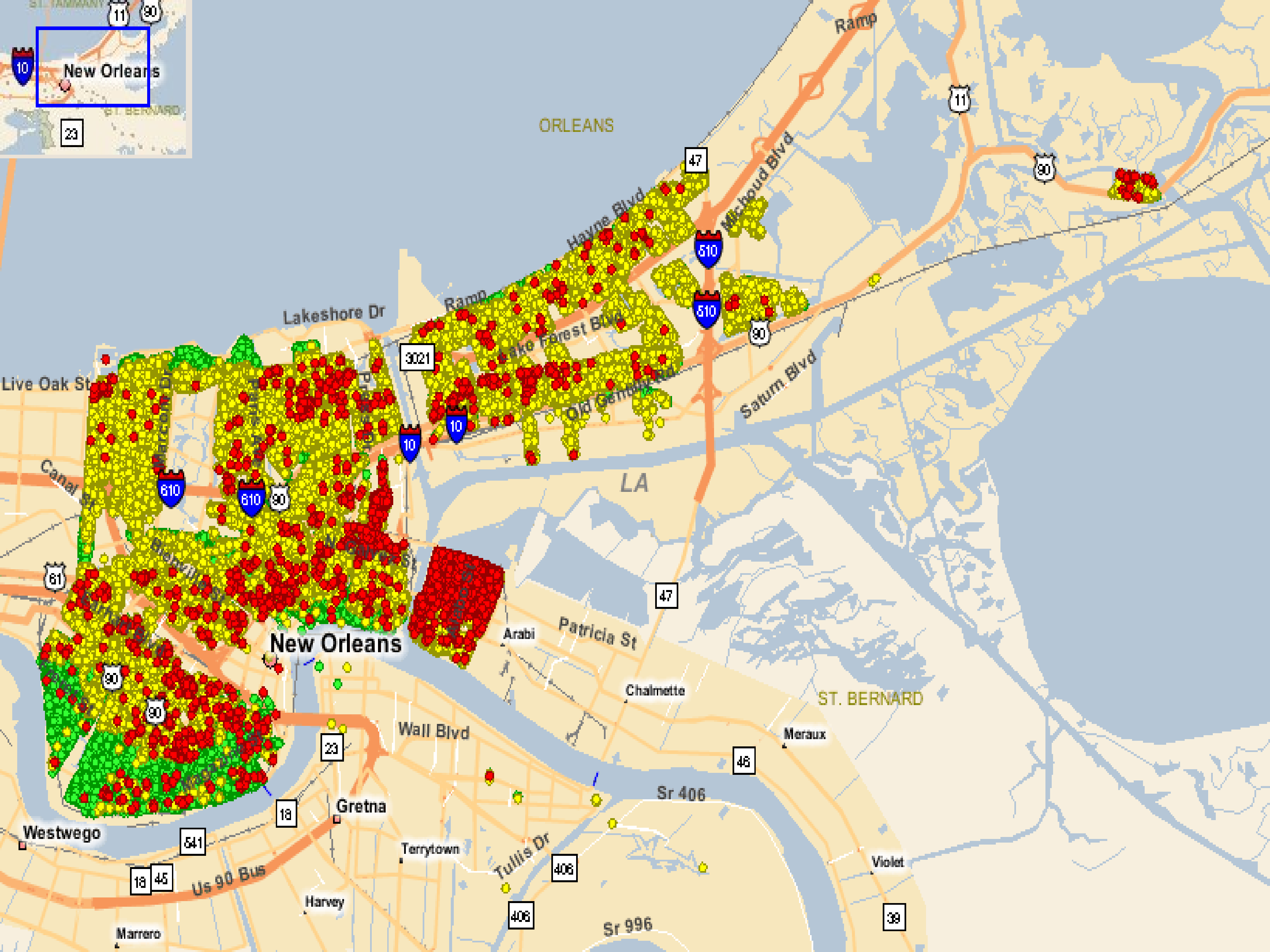
SSA – New Orleans

- Trained Inspectors
- Assigned Work to Temporary City Inspectors under contract from the Shaw Group
- Performed QA check
- Reported results to

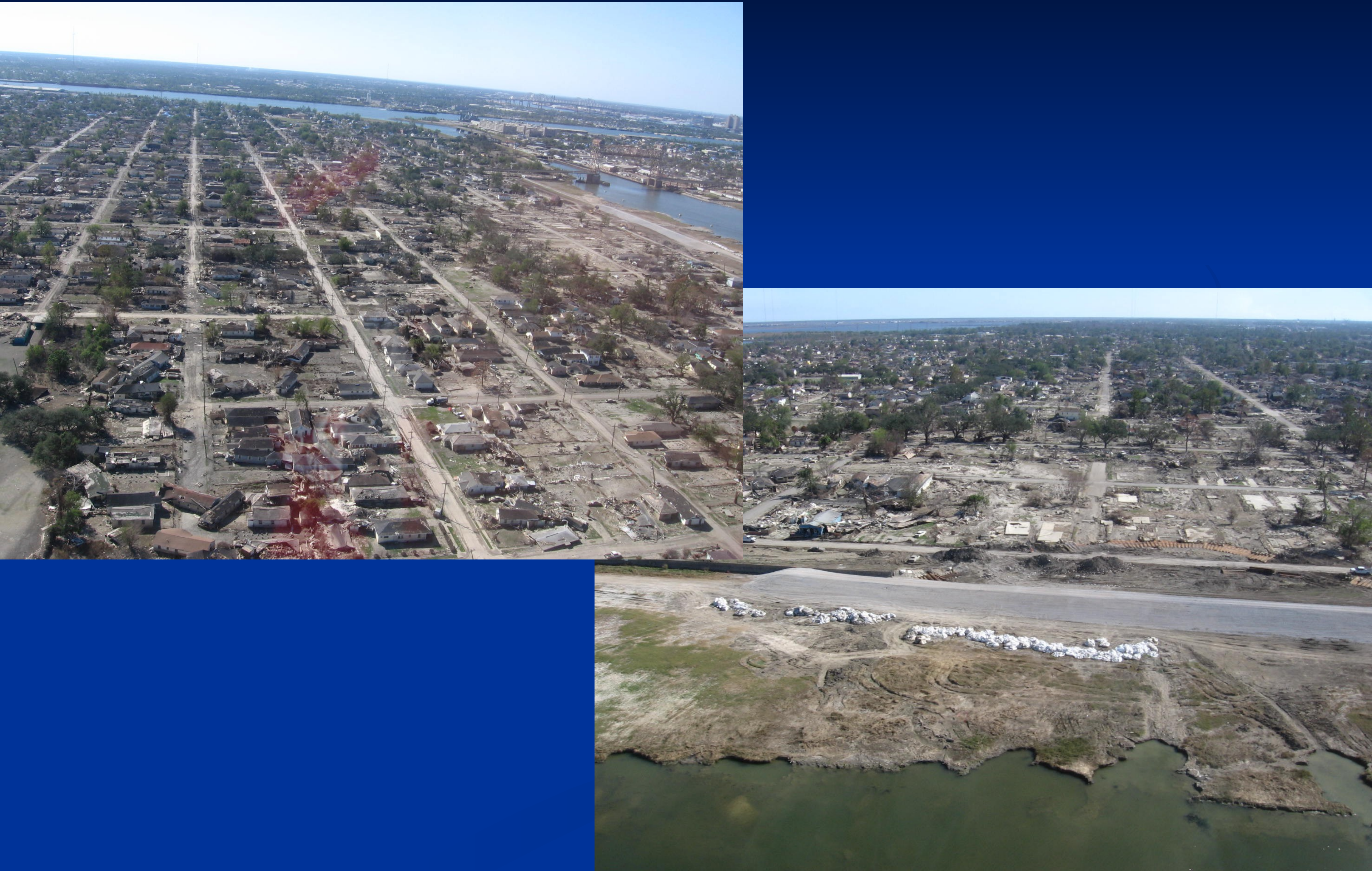
City, Corps, and FEMA

- Ensured customer w

satisfied with product


ST. TAMMANY
11
90
10
New Orleans
ST. BERNARD
23
Ramp
ORLEANS
11
90
47
Michoud Blvd
Hayne Blvd
510
510
90
Lakeshore Dr
Ramp
Lake Forest Blvd
3021
Live Oak St
Marconi Dr
Paris Ave
Press Dr
10
10
Old Gentilly Rd
Saturn Blvd
Canal St
610
610
90
LA
Bienville St
N Galvez St
61
Earhart Blvd
90
90
Magazine St
New Orleans
Arabi
Patricia St
47
Chalmette
ST. BERNARD
Meraux
46
Wall Blvd
23
Sr 406
18
Gretna
Westwego
541
Terrytown
Tullis Dr
406
Violet
18
45
Us 90 Bus
Harvey
406
Sr 996
39
Marrero

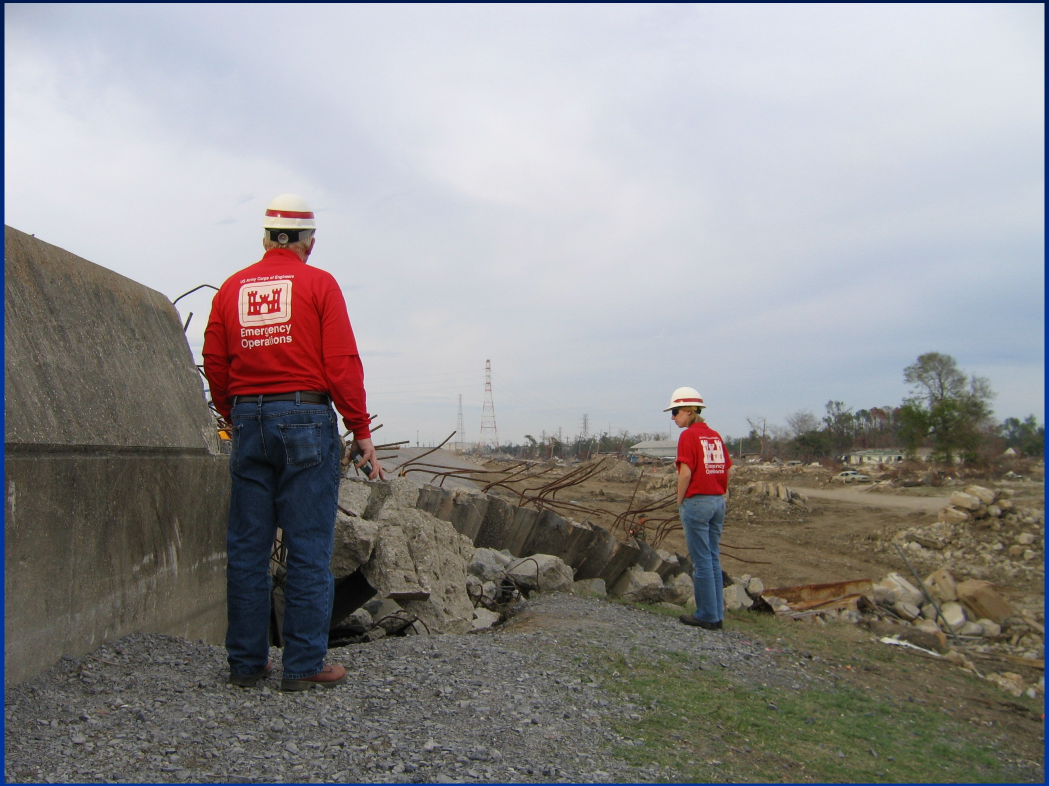
SSA – New Orleans

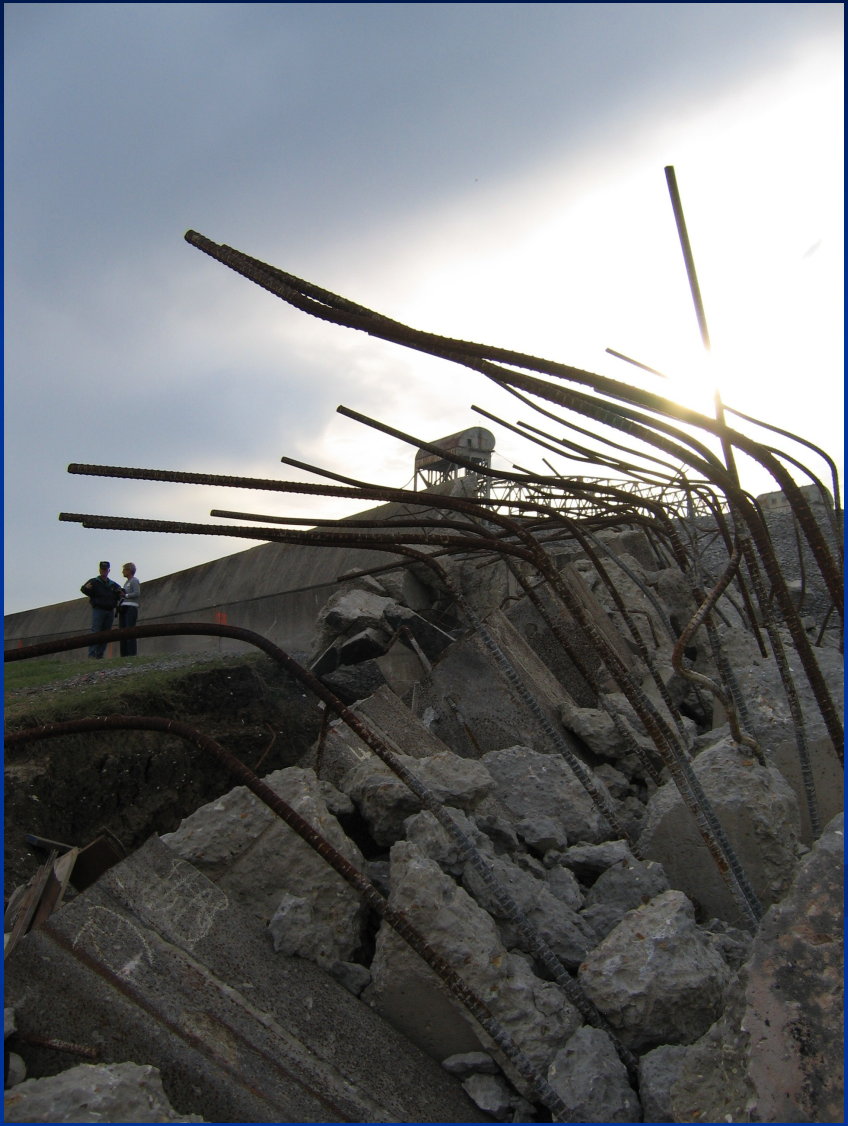


SSA – New Orleans

ING 4727
ING 4727

SSA – New Orleans


US Army Corps of Engineers
Emergency Operations



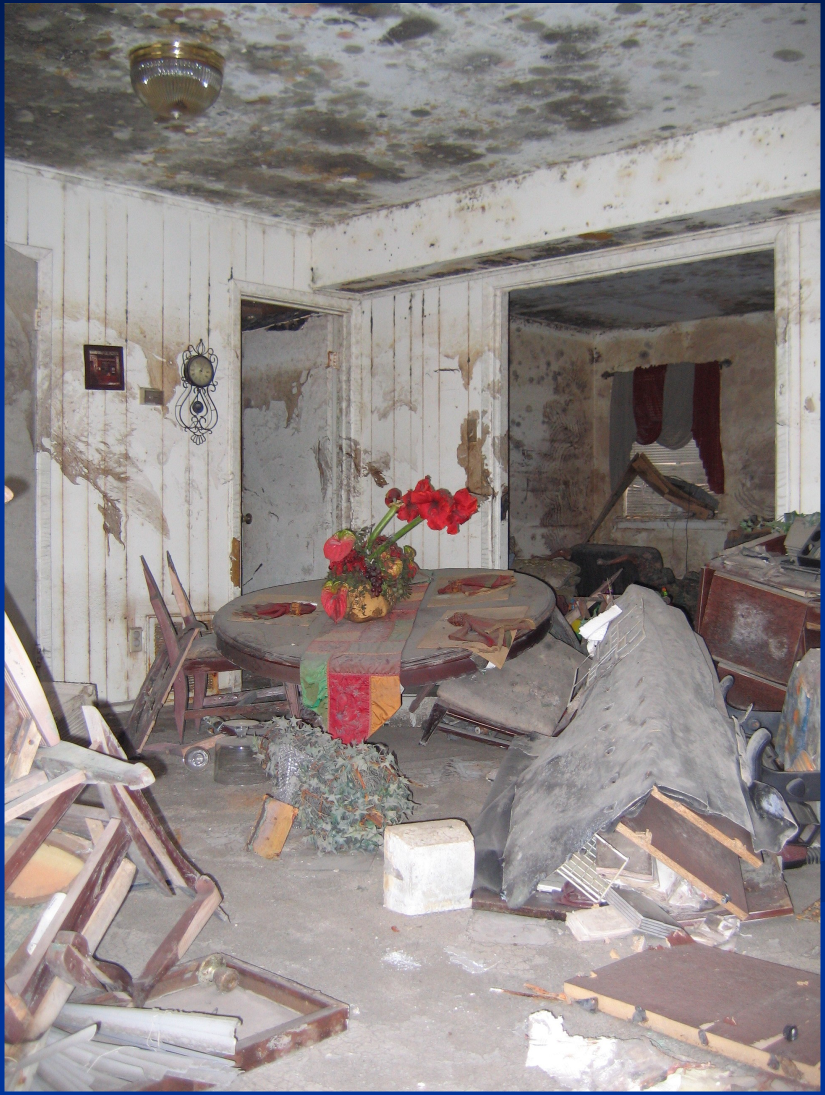
SSA – Cameron

- Managed Corps of Engineers Inspectors, in this case inspectors came from Alaska District
- Obtained GIS Mapping – Engineer from Philadelphia District
- Performed Inspections with Ride Along FEMA representative
- Provided results to Parish, Corps, and FEMA

SSA – Cameron

ETOC 3A
EMERGENCY OPERATIONS
US Army Corps of Engineers

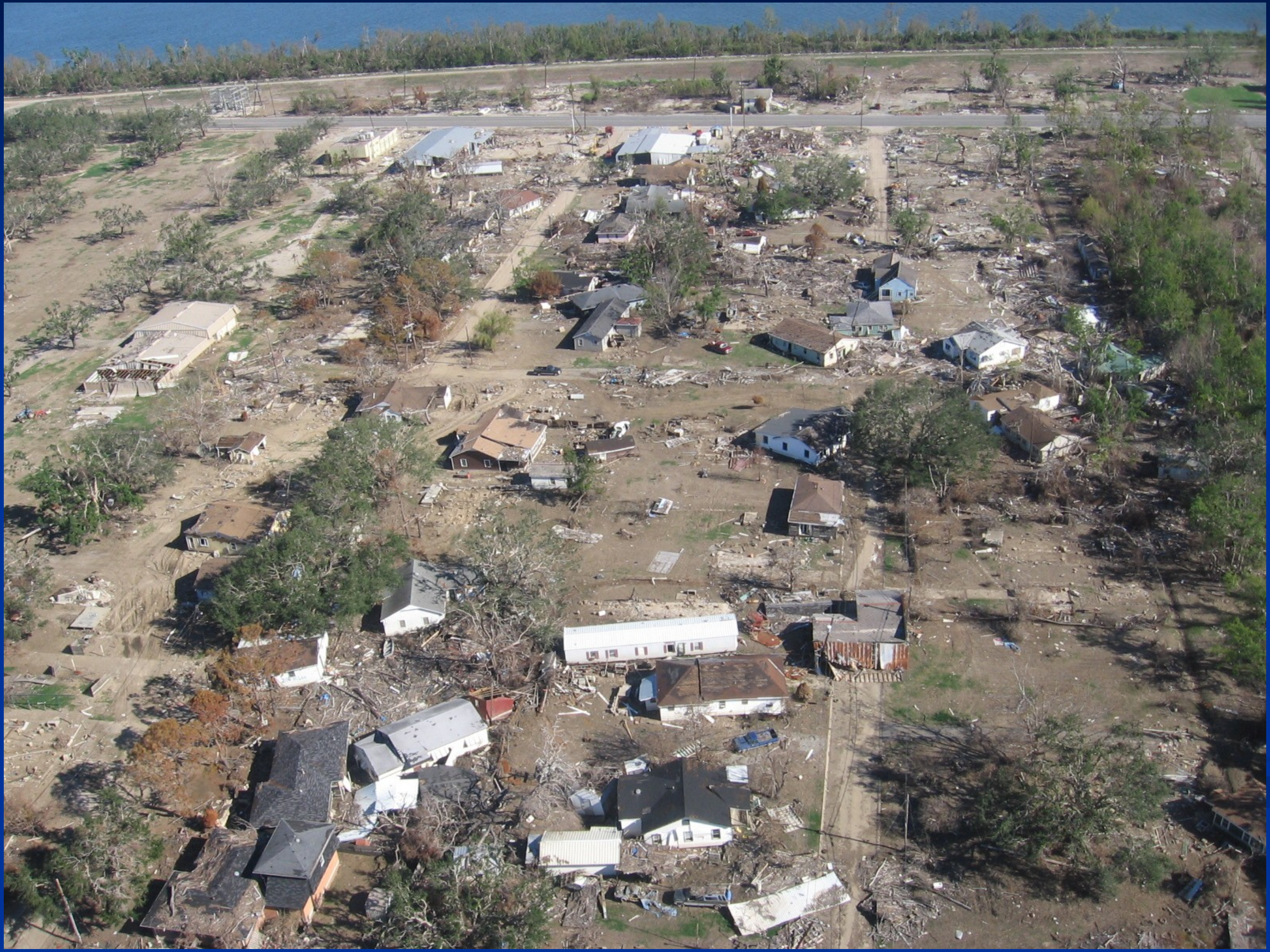
NO SMOKING
Big Sky Mobile Catering
ENTRANCE
32
MANDATORY HAND



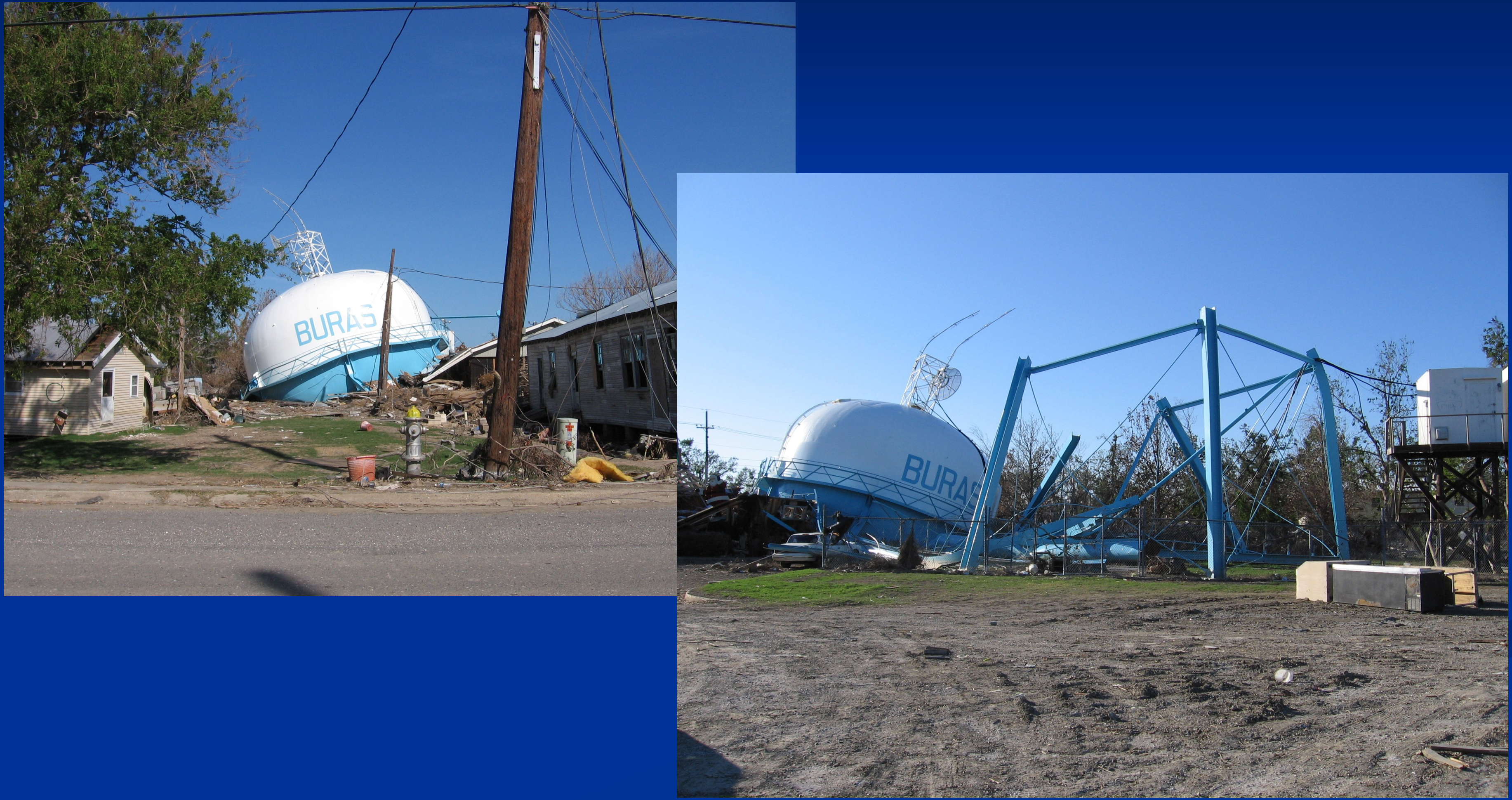
SSA – Plaquemines

- Managed Corps Inspectors
- Obtained local maps
- Coordinated inspection requirements with Parish Engineer
- Performed Inspections, visual, rapid and detailed
- Provided results to Parish, Corps, and FEMA

SSA - Plaquemines



SSA - Plaquemines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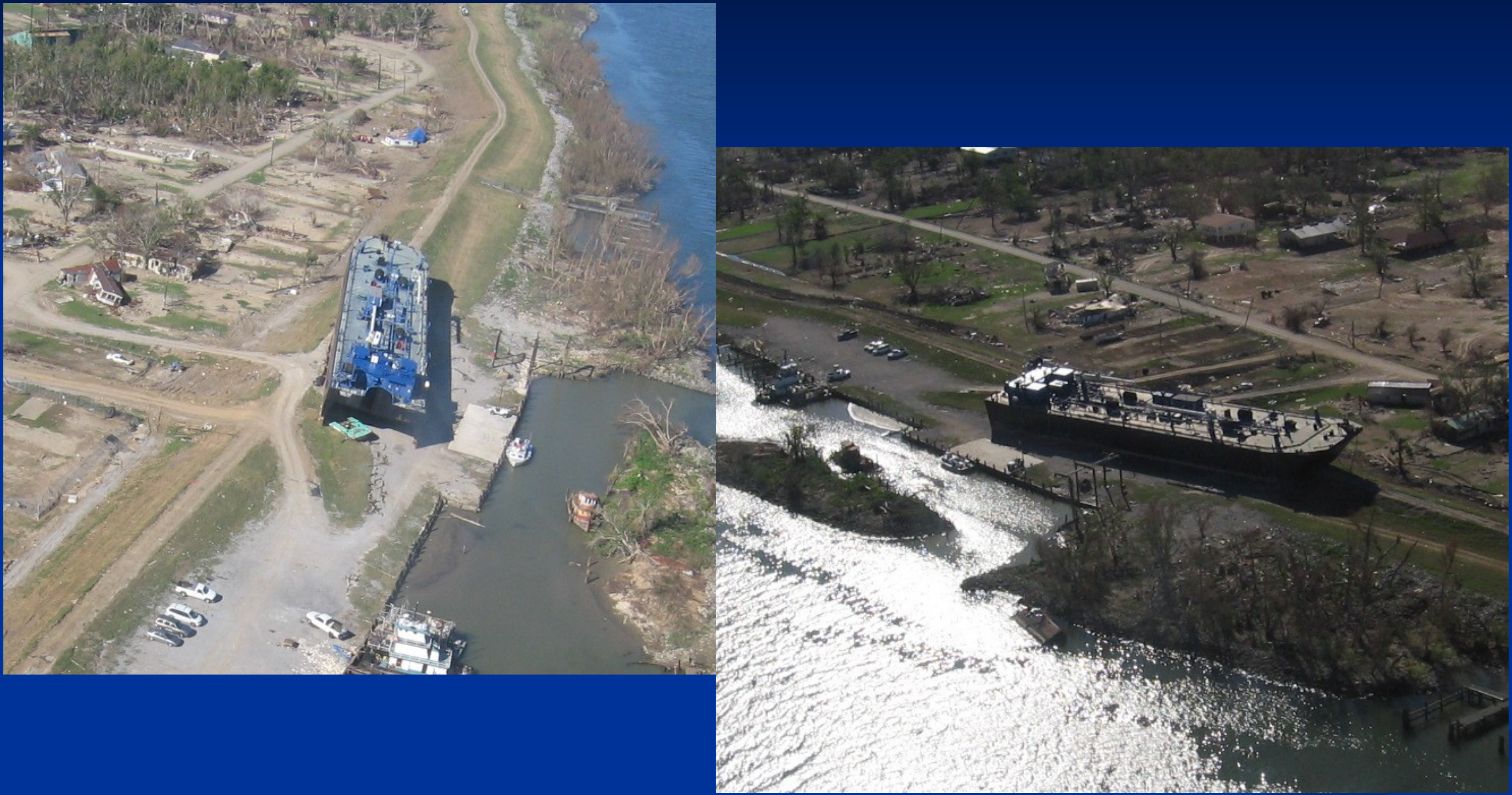
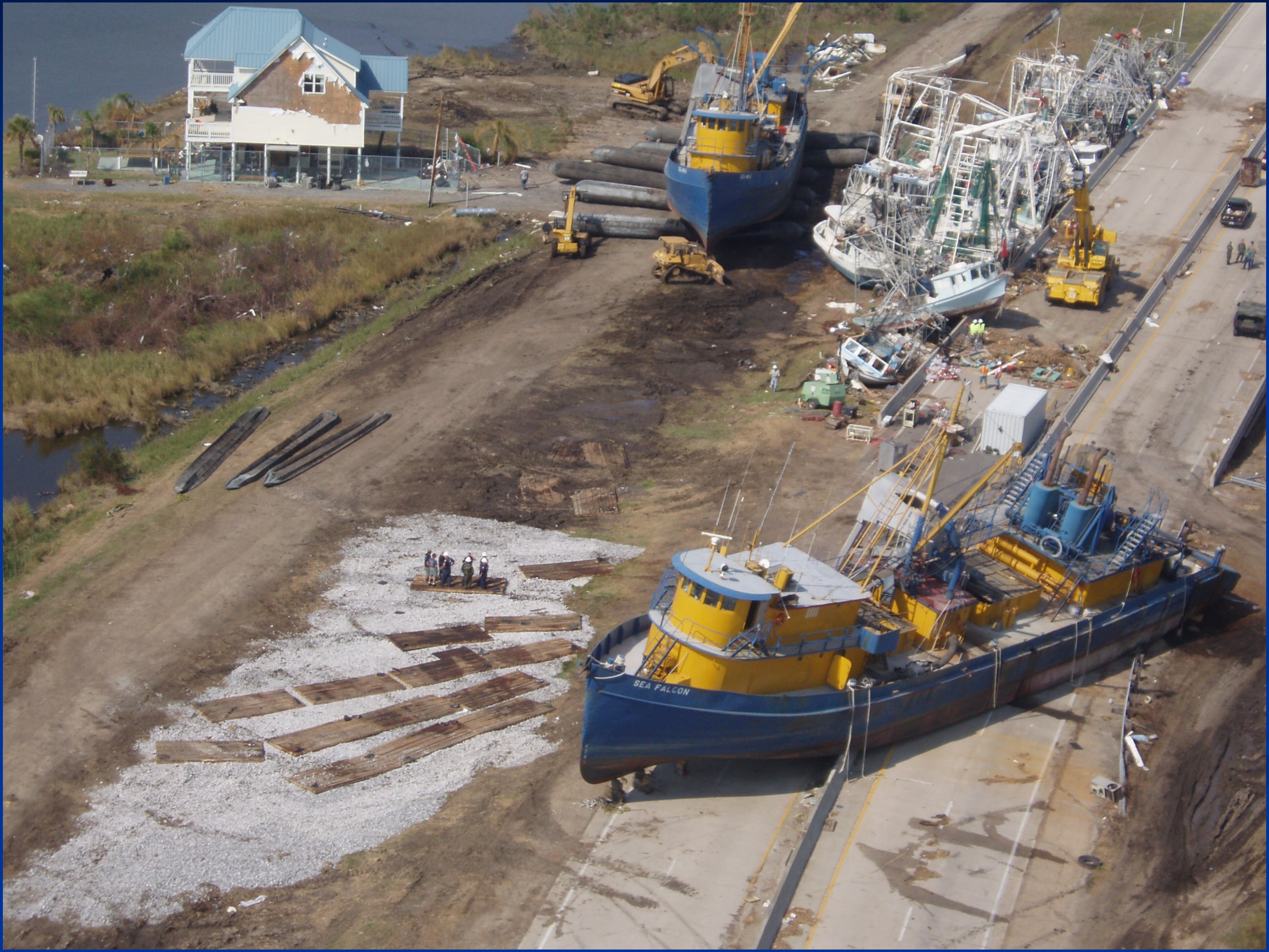
BURAS

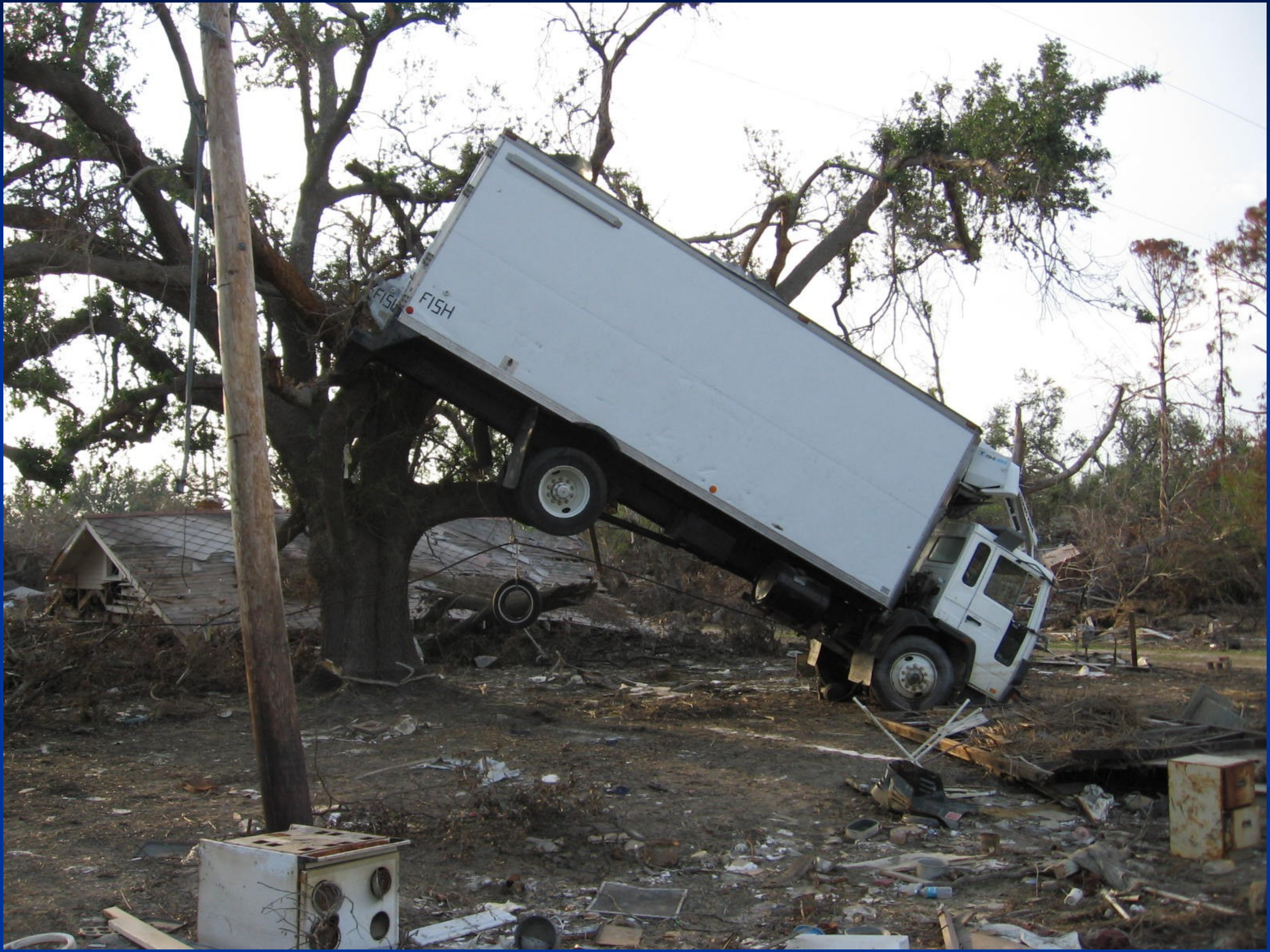
SSA - Plaquemines



SSA - Plaquemines

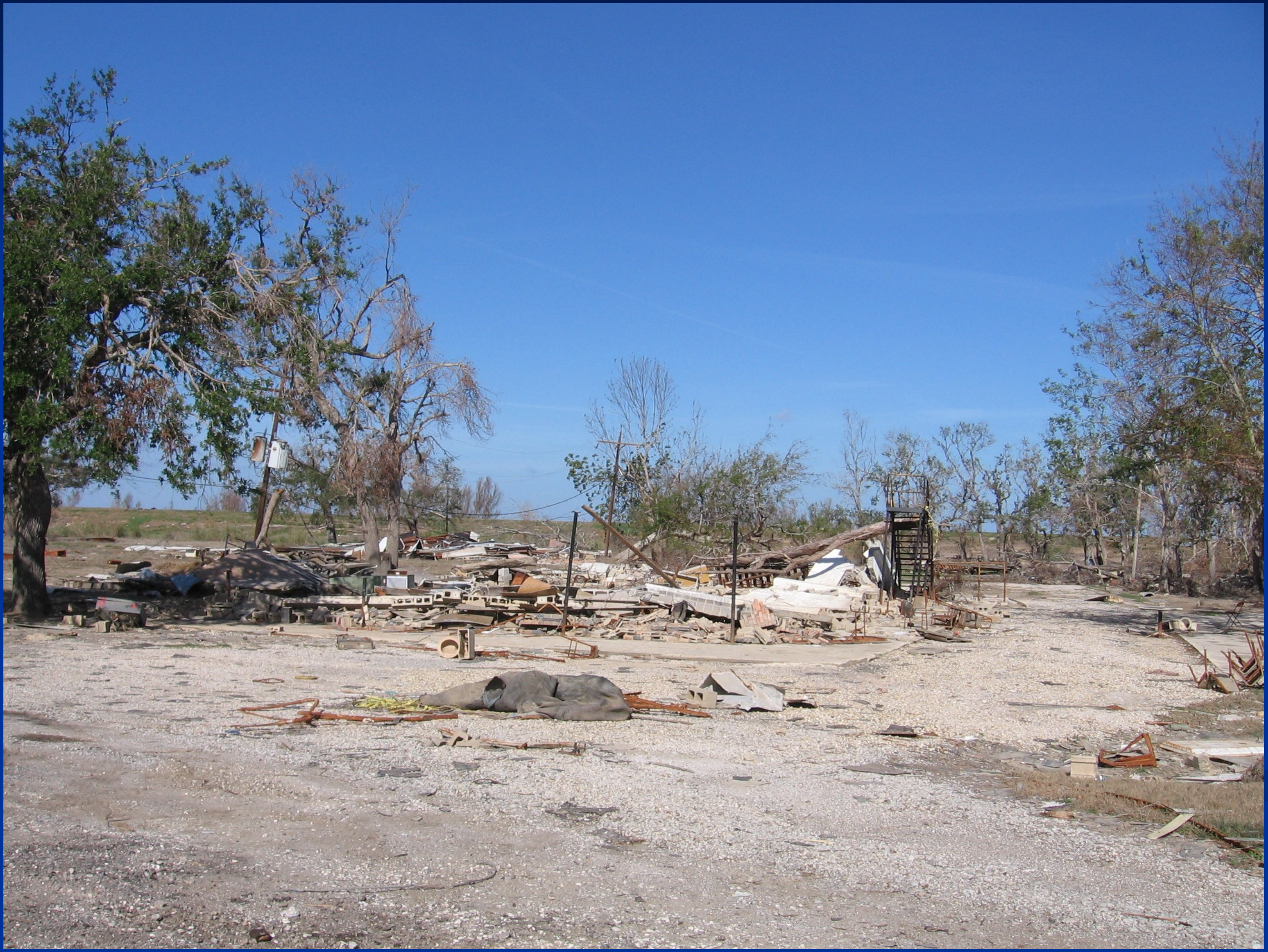


SSA - Plaquemines



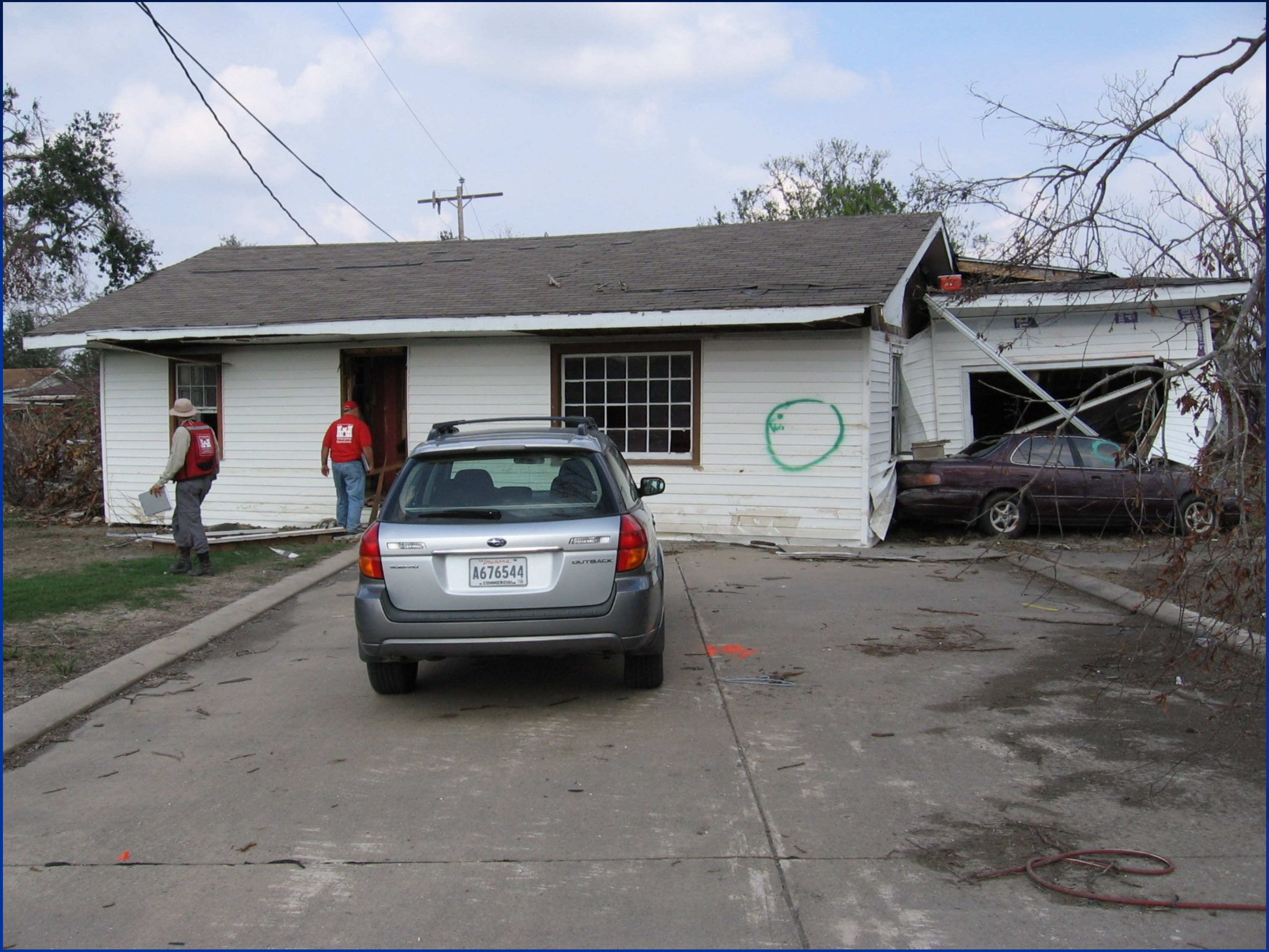
SSA - Plaquemines

Visual Inspections



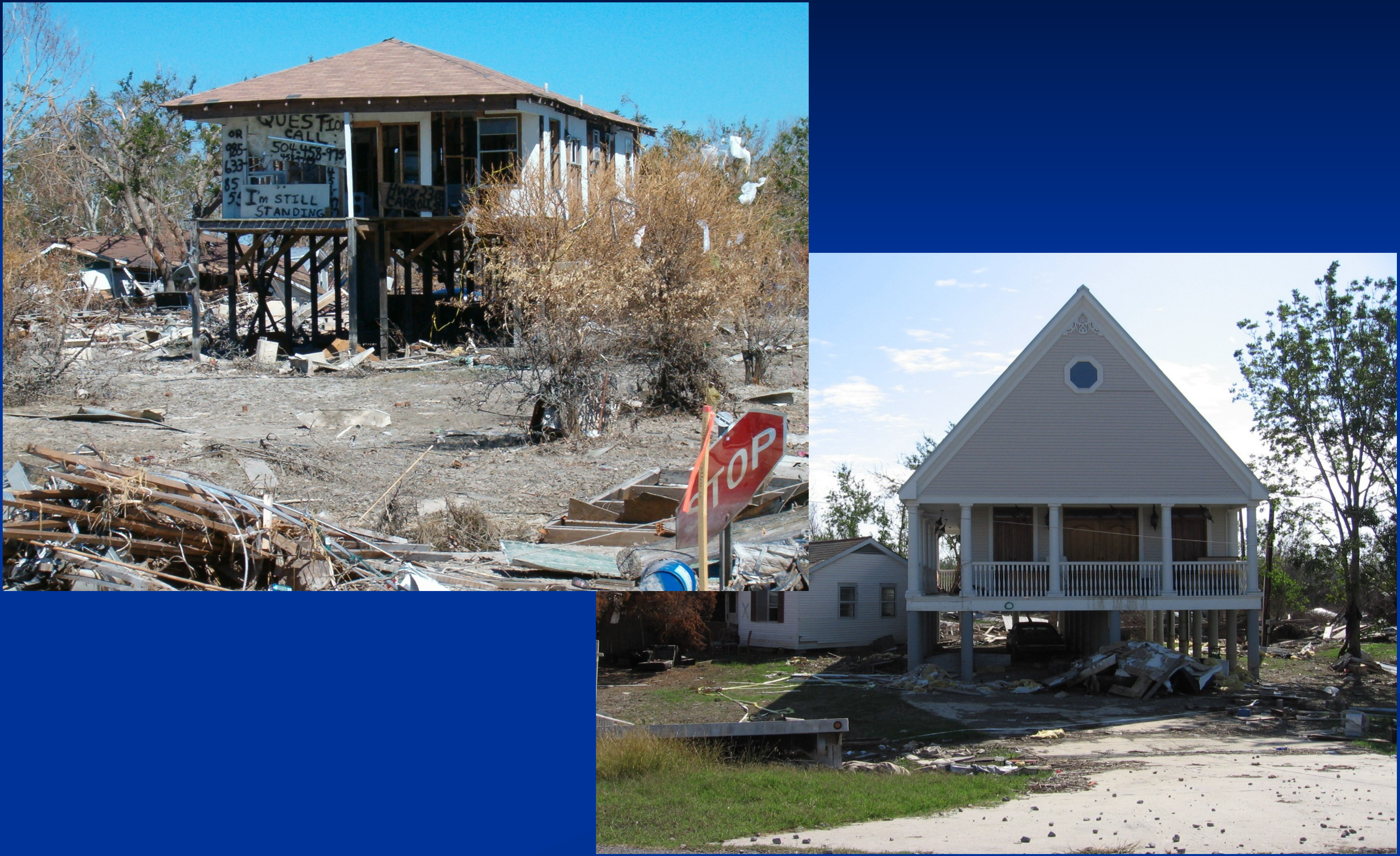
SSA - Plaquemines

Rapid Assessment



SSA - Plaquemines

Detailed Residential Assessment


QUESTION CALL
I'm STILL STANDING
STOP

SSA – Vermilion

- Managed Corps Inspectors
- Coordinated inspection requirements with FEMA representatives
- Performed Inspections, did a sweep of homes south of a coordinated damage line drawn from maps of the parish
- Provided database of inspections to Parish, Corps, and FEMA

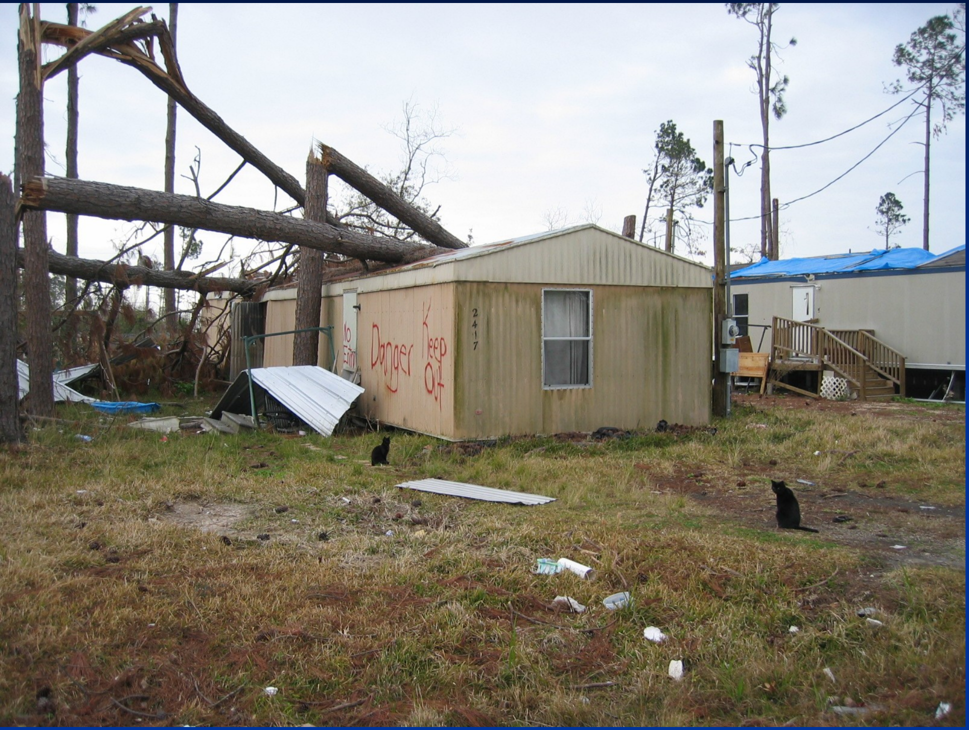
SSA – Vermilion

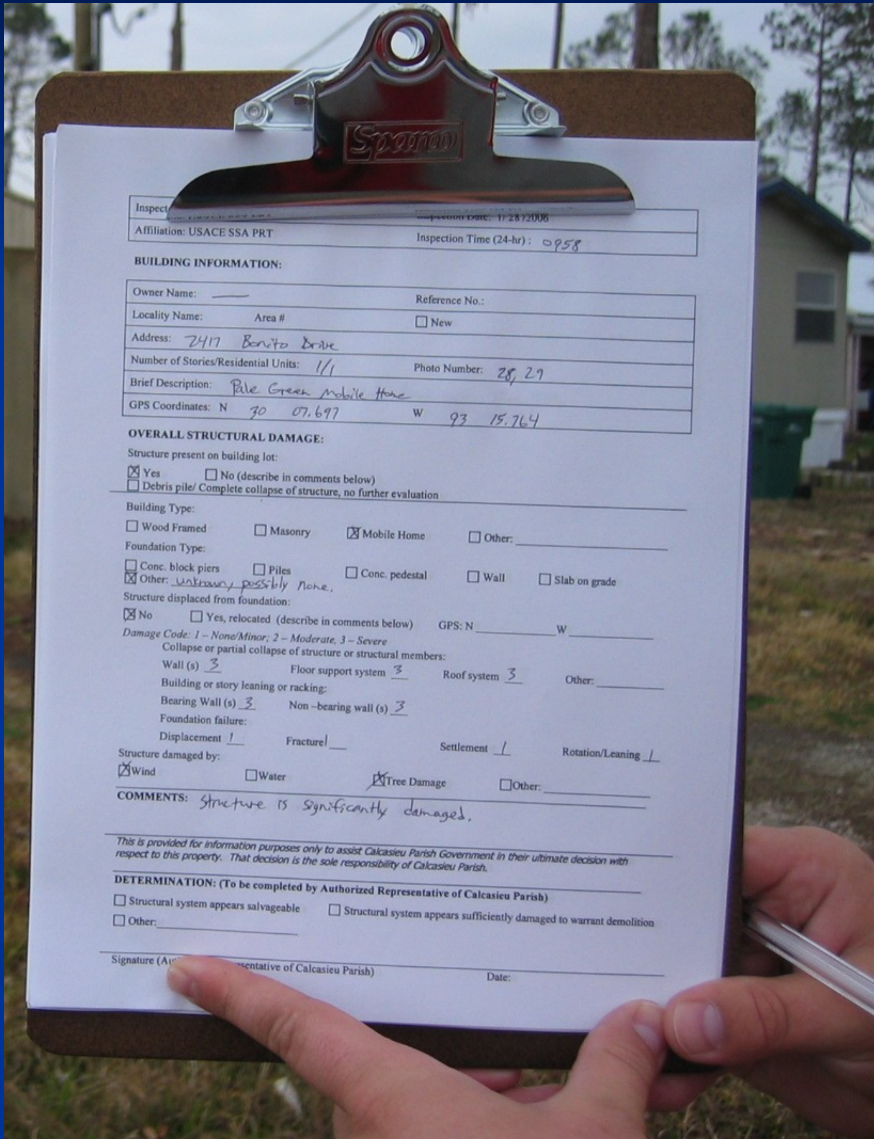
SSA – Vermilion

SSA – Calcasieu

- Managed Corps Inspectors
- Obtained local maps
- Coordinated inspection requirements with Parish Engineer – most damage due to tornado like winds
- Performed Inspections in localized areas with numerous structures, i.e. mobile home parks
- Provided results to Parish, Corps, and FEMA

SSA - Calcasieu





Inspect

Affiliation: USACE SSA PRT

Inspection Time (24-hr) : 0958

1/28/2006

BUILDING INFORMATION:

Owner Name: ——

Reference No.:

Locality Name: Area #

☐ New

Address: 2417 Bonito Drive

Number of Stories/Residential Units: 1/1

Photo Number: 28, 29

Brief Description: Pale Green Mobile Home

GPS Coordinates: N 30 07.697 W 93 15.764

OVERALL STRUCTURAL DAMAGE:

Structure present on building lot:

☒ Yes ☐ No (describe in comments below)

☐ Debris pile/ Complete collapse of structure, no further evaluation

Building Type:

☐ Wood Framed ☐ Masonry ☒ Mobile Home ☐ Other: ____

Foundation Type:

☐ Conc. block piers ☐ Piles ☐ Conc. pedestal ☐ Wall ☐ Slab on grade

☒ Other: unknown, possibly none.

Structure displaced from foundation:

☒ No ☐ Yes, relocated (describe in comments below) GPS: N ____ W ____

Damage Code: 1 – None/Minor; 2 – Moderate, 3 – Severe

Collapse or partial collapse of structure or structural members:

Wall (s) 3 Floor support system 3 Roof system 3 Other: ____

Building or story leaning or racking:

Bearing Wall (s) 3 Non –bearing wall (s) 3

Foundation failure:

Displacement 1 Fracture 1 Settlement 1 Rotation/Leaning 1

Structure damaged by:

☒ Wind ☐ Water ☒ Tree Damage ☐ Other: ____

COMMENTS: Structure is significantly damaged.

This is provided for information purposes only to assist Calcasieu Parish Government in their ultimate decision with respect to this property. That decision is the sole responsibility of Calcasieu Parish.

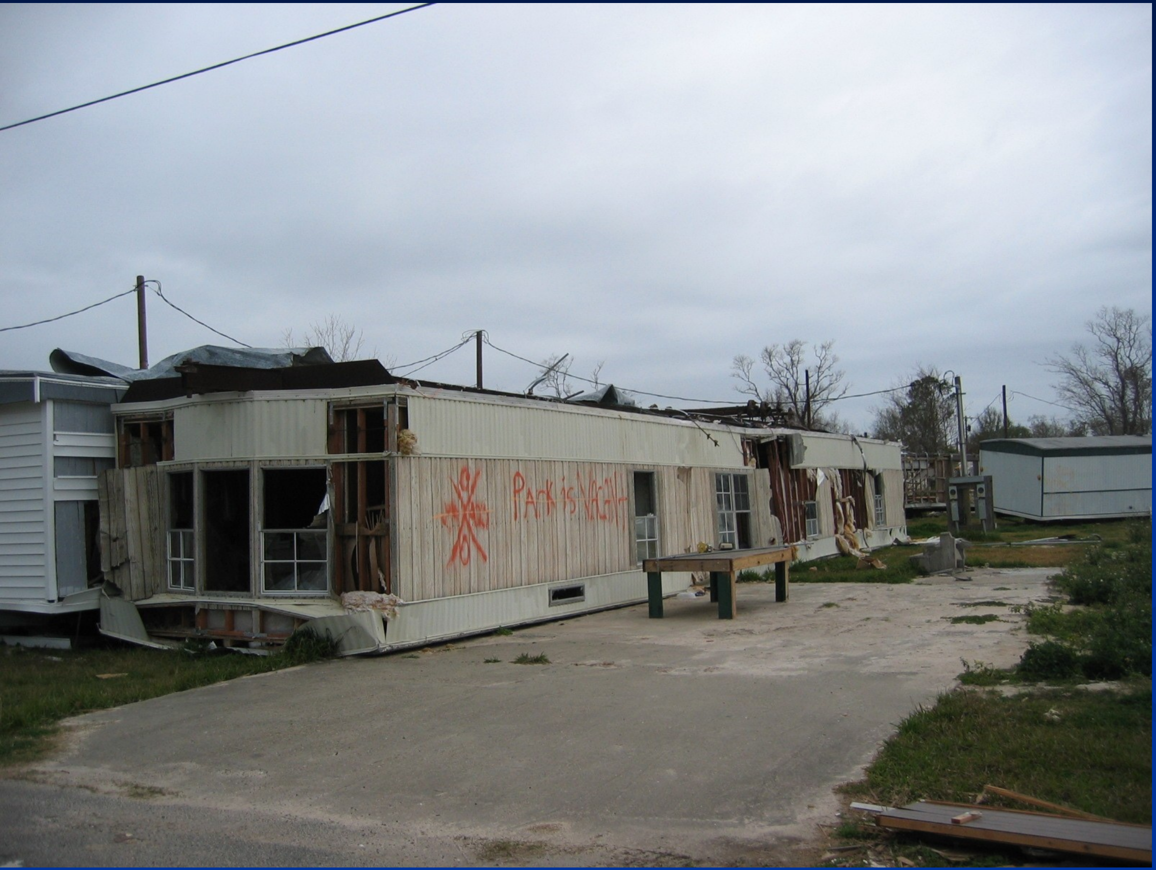
DETERMINATION: (To be completed by Authorized Representative of Calcasieu Parish)

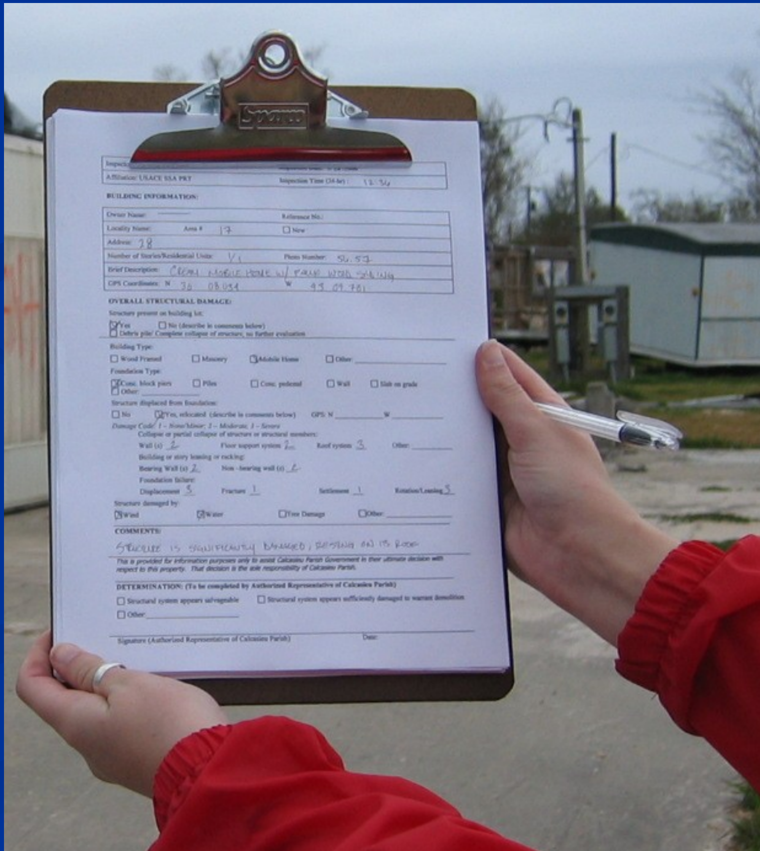
☐ Structural system appears salvageable ☐ Structural system appears sufficiently damaged to warrant demolition

☐ Other: ____

Signature (Au sentative of Calcasieu Parish) Date:

SSA - Calcasieu





Affiliation: USACE SSA PRT
Inspection Time (24-hr): 12:36

BUILDING INFORMATION:

Owner Name: ———
Reference No.:
Locality Name: Area # 17 ☐ New
Address: 28
Number of Stories/Residential Units: 1/1
Photo Number: 56.57
Brief Description: CREAM MOBILE HOME w/ FAUX WOOD SIDING
GPS Coordinates: N 30 08.034 W 93 09.781

OVERALL STRUCTURAL DAMAGE:

Structure present on building lot:
☒ Yes ☐ No (describe in comments below)
☐ Debris pile/ Complete collapse of structure, no further evaluation

Building Type:
☐ Wood Framed ☐ Masonry ☒ Mobile Home ☐ Other: ______

Foundation Type:
☒ Conc. block piers ☐ Piles ☐ Conc. pedestal ☐ Wall ☐ Slab on grade
☐ Other: ______

Structure displaced from foundation:
☐ No ☒ Yes, relocated (describe in comments below) GPS: N ______ W ______

Damage Code: 1 – None/Minor; 2 – Moderate; 3 – Severe

Collapse or partial collapse of structure or structural members:
Wall (s) 2 Floor support system 2 Roof system 3 Other: ______

Building or story leaning or racking:
Bearing Wall (s) 2 Non - bearing wall (s) 2

Foundation failure:
Displacement 3 Fracture 1 Settlement 1 Rotation/Leaning 3

Structure damaged by:
☒ Wind ☒ Water ☐ Tree Damage ☐ Other: ______

COMMENTS:

STRUCTURE IS SIGNIFICANTLY DAMAGED, RESTING ON ITS ROOF

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DETERMINATION: (To be completed by Authorized Representative of Calcasieu Parish)

☐ Structural system appears salvageable ☐ Structural system appears sufficiently damaged to warrant demolition
☐ Other: ______

Signature (Authorized Representative of Calcasieu Parish) Date:

USACE

QUESTIONS???